

**REMARKS**

Prior to entry of this amendment, claims 1-10 are pending in the subject application. Claim 1 has been amended to more clearly recite the present invention. Claims 2, 7 and 10 have been amended for consistency with amended claim 1. Claims 11-14 have been added. Claims 1, 11 and 12 are independent.

Applicants request, in the next Office action, the Examiner acknowledge the applicant's claim for foreign priority and receipt of a certified copy of the priority document.

Applicants appreciate the Examiner's consideration of the Information Disclosure Statement filed September 2, 2003. Applicants request, in the next Office action, that the Examiner acknowledge the Information Disclosure Statement filed March 11, 2004. A copy of the form to be initialed and a copy of the European Search Report are attached for the Examiner's convenience. It is noted that the non-US reference was already listed by the Examiner, and the US patent noted in the Search Report, but not listed, was already listed in the previous Information Disclosure Statement.

Applicants request, in the next Office action, that the Examiner indicate the acceptability of the drawings filed on September 2, 2003.

Claims 1-14 are presented to the Examiner for further or initial prosecution on the merits.

**A. Asserted Obviousness Rejection**

In the outstanding Office action, the Examiner rejected claims 1-3, 5, 7-8 and 10 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,923,299 to Brown et al. ("the Brown et al. reference") in view of WO 95/32529 to Brooker et al. ("the Brooker et al. reference"). Claim 1 has been amended to more clearly recite the present invention. It is

respectfully submitted that claim 1 is allowable for at least the reasons set forth below.

Claim 1 has been amended to clarify that the boundary surface of the dielectric material is curved. This is disclosed, for example, in FIG. 5 of the original specification, in which the dielectric material 46 between the conical upper and lower conductive bodies 40, 42 has a curved boundary surface 48. As disclosed, for example, in paragraph [0034] of the original specification, since the electric wave is radiated from the common apex along a radial direction, it is incident on the curved boundary surface 48 at the Brewster angle over the entire boundary surface 48. In other words, a sum of the incident angle  $\theta_b$  and the refractive angle  $\theta_t$  at the boundary surface 48 is 90°.

In contrast, the boundary surface of the dielectric in both the Brown et al. reference and the Brooker et al. reference are both clearly linear. While the Brooker et al. reference may disclose providing an interface configured so that a signal from the generator is incident at substantially the Brewster angle, the interface in the Brooker et al. reference will only provide the Brewster angle for a plane wave. *See, e.g., page 2, lines 19-22 of the Brooker et al. reference.* Thus, use of the dielectric interface of the Brooker et al. reference with the antenna structure of the Brown et al. reference will not provide the Brewster angle over the entire surface of the dielectric material for the biconical antenna therein.

Therefore, it is respectfully submitted that neither the Brown et al. reference nor the Brooker et al. reference, either alone or in combination, disclose or suggest a biconical antenna having a dielectric material with a curved boundary surface, as recited in claim 1. The remaining rejected claims depend, either directly or indirectly, from claim 1, and are believed to be allowable for at least the reasons set forth above. Therefore, it is respectfully requested that this rejection be withdrawn.

**B. Allowable Subject Matter**

The indication in the outstanding Office action that claims 4, 6 and 9 contain allowable subject matter is gratefully acknowledged. New claim 11 corresponds to claim 4, written in independent form, with limitations apparently not afforded patentable weight omitted therefrom. New claim 12 generically recites claims 6 and 9 in independent form, again with limitations apparently not afforded patentable weight omitted therefrom. New claims 13 and 14 depend directly from claim 12, and are believed to be allowable for at least the reasons claim 12 is believed to be allowable.

It is respectfully submitted that all of the claims of record are in condition for allowance.

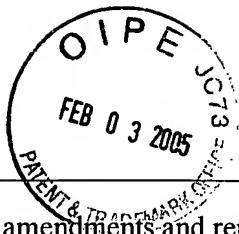
**C. Conclusion**

Since the cited prior art references neither anticipate nor render obvious the subject invention as presently claimed, applicants respectfully submit that claims 1-14 are now in condition for allowance, and a notice to that effect is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

Serial No. 10/652,027  
Amendment dated February 3, 2005

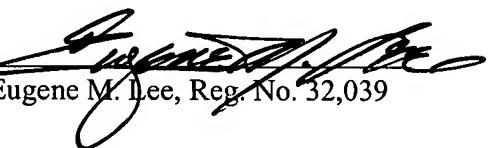
Atty. Docket No. 249/405  
Reply to Office action of November 3, 2004



In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

Date: February 3, 2005

  
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**PETITION and**  
**DEPOSIT ACCOUNT CHARGE AUTHORIZATION**

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.